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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/070,886

04/09/2004

Paul K. Zoratti

10541-1316

2485

757

7590

04/06/2005

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EXAMINER

PREVIL, DANIEL

ART UNIT

PAPER NUMBER

2636

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/070,886

Applicant(s)

ZORATTI ET AL.

Examiner

Daniel Previl

Art Unit

2636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-23 is/are allowed.
- 6) ☒ Claim(s) 1-3, 8-10, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 4-7 and 11-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/13/2002.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 1-23 are presented for examination.

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because the abstract should be limited to a single paragraph on a separate sheet within the range of 50 to 150 words.

Correction is required. See MPEP § 608.01(b).

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer

program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or

REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a).

"Microfiche Appendices" were accepted by the Office until March 1, 2001.)

(e) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(f) BRIEF SUMMARY OF THE INVENTION.

(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(h) DETAILED DESCRIPTION OF THE INVENTION.

(i) CLAIM OR CLAIMS (commencing on a separate sheet).

(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.

- (e) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (f) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (g) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (h) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they

should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.

- (i) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (j) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (k) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

Claim Objections

1. Claims 1-20 are objected to because of the following informalities: Claim 1, the phrase "capable of" in line 7 is not a positive limitation but only requires the ability to so perform. Claim 11, the phrase "capable of" in line 4 is not a positive limitation but only require the ability to so perform. Claim 19, delete "an" in line 3 and substitute it by ---a--- and the phrase "capable of" in line 5 is not a positive limitation but only requires the ability to so perform. Appropriate correction is required.

Claims 2-10, 12-18, 20, are objected for the same reason since they depend from objected claims.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 19-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19 recites "said deformation impact" in line 8, there is insufficient antecedent basis for this limitation in the claim.

Claim 20 is objected for the same reason since it depends from an objected claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Clark, Marcus T. (EP 0 775 613).

Regarding claim 19, Clark discloses a vehicle impact sensor assembly for monitoring impact events in a vehicle (abstract; fig. 2),

comprising: a first housing member (section 24) (fig. 3); a second housing member (chassis 26) (fig. 3); a bend sensitive resistance element providing signals of impact events, said bend sensitive resistance element disposed directly on either first housing member or second housing member (fig. 3; page 3, col. 2, lines 16-40; page 4, col. 2, lines 10-40) and a connector for electrically connecting deformation impact sensor element to vehicle (page 3, col. 1, lines 23-27; page 4, col. 1, lines 8-16).

Regarding claim 20, Clark discloses electronics to process signals from bend sensitive resistance element (fig. 1-fig. 2).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3, 8, 10, are rejected under 35 U.S.C. 103(a) as being unpatentable over Boran et al. (US 6,169,479) in view of Clark, Marcus T (EP 0 775 613).

Regarding claim 1, Boran discloses a vehicle impact sensor assembly having a longitudinal axis; and first and second ends for monitoring impact events in a vehicle (fig. 1; abstract) comprising: an elongated impact sensor element (sensor assembly 42) (fig. 1, ref. 42) providing signals of impact events upon

deformation of impact sensor; impact sensor element disposed within channel (fig. 1; col. 3, lines 48-67; col. 4, lines 1-7) and a connector for electrically connecting impact sensor element to vehicle (col. 3, lines 4-9; col. 4, lines 5-7).

Boran discloses all the limitations above but fails to explicitly disclose a first housing member; a second housing member cooperating with first housing member to define an elongated channel; first and second housing members closeably interact to encase impact sensor element.

However, Clark discloses a first housing member (section 24) (fig. 3); a second housing member (chassis 26) (fig. 3) cooperating with first housing member to define an elongated channel (film element 28) (fig. 3); first and second housing members closeably interact to encase impact sensor element (fig. 3; page 3, lines 16-22).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Clark's housing members in Boran in order to detect accurately deformation of the vehicle caused by a collision whereby improving the safety of the vehicles as taught by Clark (page 2, lines 1-15).

Regarding claim 2, Boran discloses electronics (accelerometers 36, 38) to process signals from impact sensor element (col. 3, lines 1-9).

Regarding claim 3, Boran discloses a layer of compressible material disposed within elongated channel and under elongated impact sensor element (fig. 2).

Regarding claim 8, Boran discloses an impact sensor element is a bend sensitive element and is selected from the group consisting of piezoelectric cables, fiber optic deformation sensors and resistance elements (col. 1, lines 59-66).

Regarding claim 10, Boran and Clark disclose all the limitations in claim 1 and Clark further discloses a connector is integrally formed on lower housing member (fig. 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Clark's lower housing member in Boran in order to improve the safety of vehicles as taught by Clark (page 2, line 9).

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boran et al. (US 6,169,479) in view of Clark Marcus (EP 0 775 613) as applied to claim 1 above, and further in view of Behr (US 5,141,193).

Regarding claim 9, Boran and Clark disclose all the limitations in claim 1 but fail to disclose a pigtail connector.

However, Behr disclose a pigtail connector (col. 2, lines 20-23).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Behr's pigtail connector in Boran in Clark to secure efficiently impact sensor in the vehicle whereby enhancing the safety of the vehicles as taught by Behr (col. 1, lines 9-27).

Allowable Subject Matter

Claims 4-7, 11-18, are objected.

9. Claims 21-23 are allowed.

10. The following is a statement of reasons for the indication of allowable subject matter: In combination with all the limitations in the claim, the prior arts fail to teach or make obvious: a first housing member defining a plurality of localized projections disposed adjacent impact sensor element, whereby sufficient impact exerted upon first housing member causes projections to engage impact sensor element and induce localized deformation, providing an impact sensor assembly having an elongated longitudinal axis and first and second ends, a cross-sectional shape, an electrical connector and defining a plate disposed in a perpendicular manner to longitudinal axis at first end of assembly and having at least through passageway, sliding impact sensor assembly along longitudinal axis into main opening of mounting member until plate prohibits further inward sliding.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kruse et al. (US 5,623,246) discloses a vehicle impact sensor arrangement for detecting a side impact.

Senyk et al. (US 6,204,756) discloses a diagnostic for vehicle deformation sensor system.

Kato (US 5,793,005) discloses collision detecting apparatus operable in response to deformation and acceleration.

Saab (US 3,917,020) discloses vehicle safety system.

Meyer et al. (US 5,419,407) discloses a triggering mechanism for a safety device in a vehicle, particularly for a side airbag.

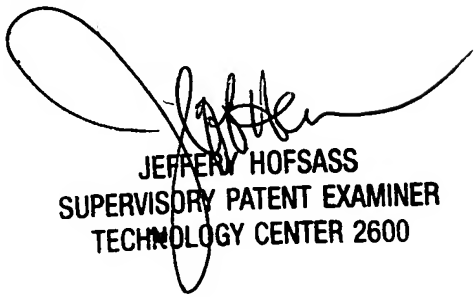
Sakakida et al. (US 5,195,776) discloses an air bag installation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Previl whose telephone number is (571) 272-2971. The examiner can normally be reached on Monday-Thursday. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on (571) 272-2981. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Previl



JEFFERY HOFSSASS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600